

Surprising though it may seem this behaviour has also been recorded with mammals. The effect is discussed at some length by F. Bourliere (*Natural History of Mammals*, 1955, p. 120).

Although I have not met this behaviour in the case of our native mammals I came across the following reference by J. F. Haddleton (*Katanning Pioneer*, 1952, p. 100):

"The marl or native pig resembled the bandicoot in his mode of living as regards food, but was much smaller than the bandicoot being very light in colour, long thin snout, small thin ears and a very thin tail and very tender. If you caught them by the tail the skin would just peel off and they would go off with a skinless tail leaving you with the bit of skin in your hand."

Ellis Troughton (*Furred Animals of Australia*, 1941, p. 67) says of the Marl (*Perameles myosura*):

"No specimens have reached the Perth Museum since 1900 and it is now assumed that it is extinct." He makes no mention of this habit.

Tail loss is interesting historically in regard to the Pig-footed Bandicoot (*Chaeropus caudatus*). Major T. L. Mitchell (*Three Expeditions into the interior of Eastern Australia*, 1839, p. 131) says:

"The most remarkable incident of this day's journey was the discovery of an animal, of which I have seen only the head among the remains found in the caves at Wellington Valley. This animal was of the size of a young, wild rabbit, and of nearly the same colour, but had a broad head, terminating in a long very slender snout, like the narrow neck of a wide bottle; and it had no tail."

As a result it was given the name *caudatus*.

Commenting on this Troughton (*Ibid.* p. 76) says:

"It was not then realised that bandicoots were prone to such an undignified casualty."

Gerrard Krefft (*Transactions of the Philosophical Society of New South Wales*, 1862-1865) in a paper "On the vertebrated animals of the Lower Murray and Darling" says:

"I was in the habit of showing a copy of Sir Thomas Mitchell's tail-less specimen to the natives, urging them to procure animals of that description; of course, they did not recognise it as a 'landwang', and I was furnished in consequence with a large number of the common bandicoot (*Perameles obesulus*) minus the tail, which, to please me, had been screwed clean out."

It would be interesting if members could keep a lookout for tail loss in mammals, especially under circumstances where such loss may have been of value to the individual in question.

THE FOOD HABITS OF THE FROG, *Myobatrachus gouldii* (GRAY)

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Myobatrachus gouldii (Gray) is the most specialised of the Australian frog fauna. Its very small head and extremely short

limbs, which give it a turtle-like appearance, are striking, and are the characters used by Main (1954) to separate it from the "typical" frogs. Main also comments on the fact that *Myobatrachus* appears to be truly subterranean and that it apparently eats termites. The frog is restricted to south-western Australia and its life history is unknown.

Myobatrachus is generally believed to be a specialised termite predator but only one or two direct observations on this point are recorded in the literature and no identifications of prey are given. Fletcher (1898) states that A. M. Lea found 5 specimens in soil at the side of a termite nest at Perth and that several hundred larvae and pupae of "a common fly" were found in the same soil. Harrison (1927) records a specimen from Eradu, the stomach of which was "crammed with comminuted termites, mixed with the fine reddish sand of the country". "White-Ant-Eater" is given as a common name by Glauert (1945) who states that the animal is "found in or near termite mounds or places where termites abound". Because of the interest attached to vertebrates with specialised food habits and in view of the paucity of data on *Myobatrachus*, it seemed desirable to confirm the belief that it is a specialised feeder on termites.

Owing to its cryptozoic subterranean habits, specimens of this frog are difficult to obtain and all of the known specimens have been found by accident. In 3 years of collecting termites as a hobby the author has found only 2 specimens of the frog, both under logs. However, Mr. L. Glauert, Director of the Western Australian Museum, generously allowed the author to remove gut contents from the fine series in his charge and Dr. A. R. Main kindly supplied 2 further specimens. The author is very grateful to both gentlemen for these favours.

The total number of guts examined was 46 of which 26 contained a good quantity of material and 17 were completely empty. A preliminary sorting showed that the prey was almost entirely termites, which were in all stages from whole insects to completely digested remains. No alate remains were encountered. Fortunately, termite identification is based on soldier head capsules and mandibles and worker mandibles, all of which parts are chitinised and not digested. The soldiers were specifically identified from Hill's (1942) descriptions and figures, and generic identification of the worker mandibles was facilitated by Ahmad's (1950) figures. The material was finally checked by comparison with a named collection of termites, the identification of which was kindly confirmed by Mr. F. J. Gay, Division of Entomology, C.S.I.R.O., Canberra. The lengths of the frogs from which food data were obtained ranged from 23 to 55 mm. and the collecting localities were as follows: Metropolitan (Como, Guildford, Morley Park, Mt. Hawthorn, Nedlands, Perth, Victoria Park); Country (16 miles S.W. of Beverley, 10 miles N. of Bullsbrook, Esperance, Forrestfield, Kojonup, Narrogin, Tambellup, Wellard, Wicherina). Table 1 is a list of the termite species found with the frequency of occurrence.

TABLE I

LIST OF TERMITE PREY SPECIES IN 26 GUTS OF *MYOBATRACHUS GOULDII* WITH NUMBER OF TIMES OCCURRING

<i>Heterotermes ferox</i> (Froggatt)	1
<i>H. platycephalus</i> Froggatt	1
<i>Coptotermes acinaciformis</i> (Froggatt)	10
<i>Amitermes heterognathus</i> Silvestri	1
<i>A. modicus</i> Hill	3
<i>A. n. sp. 1</i>	1
<i>A. n. sp. 2</i>	1
<i>A. sp.</i>	2
<i>Termes kraepelinii</i> (Silvestri)	2
<i>T. n. sp.</i>	1
<i>Paracapritermes hesperus</i> Gay	1
<i>Tumulitermes subaquilus</i> (Hill)	1
<i>Occasitermes occasus</i> (Silvestri)	2

Two samples of *Amitermes* were not specifically identifiable as only the worker caste was present. The new species of *Termes* is common in south-western Australia but neither of the undescribed species of *Amitermes* is known from material other than the present specimens from *Myobatrachus* stomachs.

Other prey items occurred in insignificant numbers. One gut contained in addition to a large mass of *C. acinaciformis*, fragments of 4 small ant (Formicidae) alates of 3 different species (2 of them a species of *Camponotus*) and a single tiny fly (Diptera) wing, possibly a termitophile. Another gut which was practically empty contained fragments of a single unidentified termite worker and the remains of about 10 individuals of a small species of *Iridomyrmex* (Formicidae). Fragments of unidentified single insects were found in 2 otherwise empty guts. Vegetable matter was found in 2 samples—odd rootlets in one case and small pieces of bark in the other, and 15 guts contained sand grains, sometimes in considerable quantities.

Both specimens collected by the author were actively feeding at galleries of *C. acinaciformis* when found. One of these was killed and the gut contents removed and the other was kept alive at 16°C. and the faeces collected. The gut was completely emptied in 5 days. The only termite prey in both cases was *C. acinaciformis* and both right and left worker mandibles and soldier head capsules were counted. The minimum number of termites in each case was 326 workers and 137 soldiers, and 449 workers and 25 soldiers, respectively. The former contained, in addition, the ants and fly mentioned above.

From observations on the living *Myobatrachus* it appears that it burrows in the soil using all four feet and fills the burrow as it proceeds by pushing the disturbed soil behind. When a termite gallery is located the frog sits by it snapping up the termites as they walk past. Termites are abundant in the soil within the animal's range and the sandy nature of the soil would no doubt provide easy digging conditions. What stimuli guide the frog to the termite galleries are unknown.

Although the sample studied is not large it would be safe to say that *Myobatrachus* lives practically entirely on termites and most probably has no preferences among the termite species. The large number of *C. acinaciformis* recorded probably does not indicate a preference for this species since it is the most abundant species in south-western Australia (Calaby and Gay, 1956) and appears to have the largest colonies and no doubt also the largest foraging gallery systems. Most of the prey species recorded are common or fairly common over all or part of the frog's range. It was interesting that in all samples except one there was only a single termite species in the gut, which probably indicates that once a termite gallery is located the frog continues to feed at it so long as termites pass along. In the case where 2 species were present (*H. ferox* and *T. subaquilus*) it was obvious that 2 separate "meals" were involved as the stomach was full of the former species and the individuals were whole, while the latter were in the hinder part of the gut and reduced to fragments.

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FROM FIELD AND STUDY

Diamond Dove in Wheatbelt.—On November 4, 1955, I recorded a pair of Diamond Doves (*Geopelia cuneata*) eleven miles north-east of Beacon Siding. This is my first record of the species in the north-eastern Wheatbelt.

—DONALD N. CALDERWOOD, Beacon.

Galahs and Rufous Songlark in Muchea Area.—On August 30, 1955, I observed two Galahs (*Kakatoe roseicapilla*) in flight over the R.A.A.F. Station, Pearce, and on September 4, 1955, I obtained excellent views of a Rufous Songlark (*Cinchorhamphus mathewsi*) near (and on!) the 33-mile post on the Northern Highway. The ashy underpart and rufous rump were plainly seen.

D. L. Serventy, "Birds of the Swan River District," Emu, Vol. 47, pp. 241-286, describes the former as a "casual, non-breeding visitor," and of the latter, remarks that there have been few reports of the species though it may be "commoner than supposed."

—ERIC H. SEDGWICK, Williams.